

DOCKET NO. 120 06739 US (HWEL01-06739)  
SERIAL NO. 10/717,086  
PATENT

**REMARKS**

Claims 1-24 were pending in this application.

Claims 1-3, 6, 7, 9, 10, 12, 13, 15, 16, 18, 19, and 22-24 have been rejected.

Claims 4, 5, 8, 11, 14, 17, 20, and 21 have been objected to.

Claims 2, 10, and 16 have been amended as shown above.

Claims 1-24 remain pending in this application.

Reconsideration and full allowance of Claims 1-24 are respectfully requested.

**I. ALLOWABLE CLAIMS**

The Applicants thank the Examiner for the indication that Claims 4, 5, 8, 11, 14, 17, 20, and 21 would be allowable if rewritten in independent form to incorporate the elements of their respective base claims and any intervening claims. Because the Applicants believe that the remaining claims in this application are allowable, the Applicants have not rewritten Claims 4, 5, 8, 11, 14, 17, 20, and 21 in independent form.

**II. INFORMATION DISCLOSURE STATEMENT**

The Office Action indicates that the reference denoted "BB" (the "*Wanlu*" reference) in the Applicants' prior Information Disclosure Statement has not been considered because the Information Disclosure Statement did not contain a date for the reference.

The Applicants respectfully note that no publication date is identified in *Wanlu*. Also, *Wanlu* was cited during prosecution of U.S. Patent Application Serial No. 10/717,406 (the

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related application identified in the Applicants' specification). The Examiner in that case identified the publication date of *Wanlu* as March 18, 2003. However, the Applicants are unable to find any reference to this date in *Wanlu*. Based on an Internet search, the Applicants believe that *Wanlu* may have been disclosed in April 2001, but the Applicants cannot confirm *Wanlu* was published on that date, either.

37 C.F.R. § 1.98(f) states that if "a *bona fide* attempt is made to comply with § 1.98, but part of the required content is inadvertently omitted, additional time may be given to enable full compliance." The Applicants hereby enclose revised copies of Forms PTO/SB/08A and PTO/SB/08B listing *Wanlu* with a publication date of April 2001. A copy of *Wanlu* has already been provided to the Patent Office. The Applicants have therefore complied with their duty of disclosure under 37 C.F.R. § 1.56.

### III. REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1-3, 7, 9, 10, 13, 15, 16, 19, 22, and 23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2004/0024568 to Eryurek et al. ("*Eryurek*") in view of U.S. Patent Publication No. 2003/0216888 to Ridolfo ("*Ridolfo*"). The Office Action rejects Claims 6, 12, 18, and 24 under 35 U.S.C. § 103(a) as being unpatentable over *Eryurek* and *Ridolfo* in view of U.S. Patent No. 5,646,600 to Abdel-Malek et al. ("*Abdel-Malek*"). These rejections are respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP* § 2142; *In re Fritch*, 972 F.2d 1260,

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*facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)). Only when a *prima facie* case of obviousness is established does the burden shift to the Applicant to produce evidence of nonobviousness. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993)). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the Applicant is entitled to grant of a patent. (*In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985)).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993)). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the Applicant's disclosure. (*MPEP* § 2142).

The Applicants believe that much of the disagreement about what *Eryurek* allegedly

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discloses stems from the fact that the Patent Office had not (until now) identified what specific elements of *Eryurek* were relied upon in rejecting Claims 1, 9, 15, and 22. For example, the Patent Office had not identified what specific elements of *Eryurek* were relied upon as disclosing (i) "one or more indicators" of a possible valve defect "at a plurality of resolution levels," and (ii) a "plurality of indexes" associated with the resolution levels and "based on the one or more indicators" as recited in Claims 1, 9, 15, and 22.

The Office Action now makes the assertion that the "seven decomposition levels" of *Eryurek* teach the "plurality of indexes" recited in Claims 1, 9, 15, and 22. (*Office Action, Page 12, First paragraph*). Until this Office Action, the Applicants had assumed that the "seven decomposition levels" (shown in Figure 4) of *Eryurek* were relied upon as disclosing the indicators at a "plurality of resolution levels" as recited in Claims 1, 9, 15, and 22. However, the Office Action now contains an explicit statement that the "seven decomposition levels" of *Eryurek* are relied upon as disclosing the "plurality of indexes" recited in Claims 1, 9, 15, and 22.

Based on this, the Office Action's interpretation of *Eryurek* clearly cannot be used to render Claims 1, 9, 15, and 22 obvious. Claims 1, 9, 15, and 22 recite that the "one or more indicators" are identified at "a plurality of resolution levels." Claims 1, 9, 15, and 22 also recite that the "plurality of indexes" are "based on the one or more indicators." If the "seven decomposition levels" of *Eryurek* are relied upon as disclosing the "plurality of indexes," the Patent Office must show that the "seven decomposition levels" of *Eryurek* are based on "one or more indicators" of a valve defect, where those indicators are identified at a "plurality of

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resolution levels" as recited in Claims 1, 9, 15, and 22. The Patent Office cannot make this showing.

*Eryurek* recites that sensor signals are decomposed using wavelet decomposition or other mechanisms. (*Pars.* [0022]-[0025]). The sensor signals are therefore decomposed to generate the seven signals in the "seven decomposition levels" shown in Figure 4 of *Eryurek*. In order for the "seven decomposition levels" of *Eryurek* to disclose the "plurality of indexes" recited in Claims 1, 9, 15, and 22, the sensor signals must represent indicators of a valve defect at "a plurality of resolution levels."

*Eryurek* contains absolutely no mention that the sensor signals represent indicators of a valve defect at "a plurality of resolution levels." The sensor signals have not been decomposed, so the sensor signals cannot possibly represent defect indicators at "a plurality of resolution levels." Because of this, the "seven decomposition levels" of *Eryurek* are not based on indicators of a valve defect, where the indicators are identified at a "plurality of resolution levels." As a result, the "seven decomposition levels" of *Eryurek* cannot teach the "plurality of indexes" recited in Claims 1, 9, 15, and 22.

For these reasons, the Office Action has not established a *prima facie* case of obviousness against Claims 1, 9, 15, and 22 (and their dependent claims).

Claim 24 recites identifying "one or more operating characteristics associated with a valve," identifying "one or more indicators of a possible defect in the valve using at least one of the one or more operating characteristics," identifying "one or more stiction patterns using the one or more indicators," and generating "one or more indexes" associated with "one or more of

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the stiction patterns.”

Again, if the “seven decomposition levels” of *Eryurek* are relied upon as disclosing the “one or more indexes” recited in Claim 24, the Patent Office must show:

(i) the “seven decomposition levels” of *Eryurek* are generated using “one or more stiction patterns;”

(ii) the one or more stiction patterns are identified using “one or more indicators;” and

(iii) the one or more indicators are identified using at least one of “one or more operating characteristics associated with a valve.”

The “seven decomposition levels” of *Eryurek* are created by decomposing sensor signals. The sensor signals are generated by a sensor 138 and digitized in *Eryurek*. (*Figure 2*). This means the “seven decomposition levels” (the alleged “one or more indexes”) are based on digitized sensor signals and nothing else. The “seven decomposition levels” of *Eryurek* are not based on “one or more stiction patterns,” which are identified using “one or more indicators,” which are identified using at least one “operating characteristic” associated with a valve as recited in Claim 24.

For these reasons, the Office Action has not established a *prima facie* case of obviousness against Claim 24.

Accordingly, the Applicants respectfully request withdrawal of the § 103 rejections and full allowance of Claims 1-3, 6, 7, 9, 10, 12, 13, 15, 16, 18, 19, and 22-24.

**DOCKET NO. 120 06739 US (HWEL01-06739)****SERIAL NO. 10/717,086****PATENT****IV. CONCLUSION**

The Applicants respectfully assert that all pending claims in this application are in condition for allowance and respectfully request full allowance of the claims.

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**SUMMARY**


If any issues arise, or if the Examiner has any suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at [wmunck@davismunck.com](mailto:wmunck@davismunck.com).

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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